

"User access control to a server content from an information carrier player"

**FIELD OF THE INVENTION**

The invention relates to a method of controlling a user access to a server content from an information carrier player comprising a parental control access.

5       The invention applies to information carrier players implementing a parental control level feature, such as DVD players.

**BACKGROUND OF THE INVENTION**

10       The DVD Forum has established a working group AH1-12 to standardize Web connected DVD, known as WebDVD. These new specifications are an extension of current DVD-Video specifications. They describe that DVD-Video discs compliant with these new specifications will be published with links to specific Websites containing additional content directly related to the content of the DVD disc being played. These specific Websites may include new navigation menus and content, which the player can download and use instead  
15       of original menus provided by the DVD disc.

Players supporting WebDVD comprise communication means for connecting to Web servers which contain said additional content. Advantageously, such communication means can also be used to access any other general Websites for general Web browsing.

20       In parallel, DVD players nowadays include a parental control feature. The purpose of this feature is to disable the playing of DVD discs that are deemed unsuitable for children. To this end, some DVDs are encoded with a specific parental control level. If the parental control level of the disc is higher than the parental control level of the DVD player (set by parents in using a PIN code), the player will not play the disc. This feature allows parents to limit the type of DVD content that can be played on the player.

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In DVD players implementing such a parental control level feature, this feature is limitative and no longer relevant since it cannot restrict or control the access to general Websites deemed unsuitable for children.

**OBJECT AND SUMMARY OF THE INVENTION**

It is an object of the invention to propose a first and a second method of controlling a user access to a server content from an information carrier player comprising a parental control access.

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The methods of controlling according to the invention take advantage of the existing parental control access used in information carrier players. Such a control access is based on a parental control level selected from among a set of parental control levels.

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The first method according to the invention of controlling a user access to a server content comprises :

- an association step for associating a list of server addresses with said parental control levels,
- a control step for restricting the user access to the list of server addresses associated with said current parental control level.

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The association of server addresses lists with each parental control level allows access to Websites whose content fits with the parental control access currently set in the player.

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This method can easily be implemented in existing DVD players having a parental control level feature.

According to an additional characteristic, the method of controlling comprises a first control sub-step for deactivating said control step.

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This control sub-step enables the user to access any server address.

According to an additional characteristic, the method of controlling comprises a second control sub-step for forbidding the user access to any server address.

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The second method according to the invention of controlling a user access to a server content comprises a control step for blocking the user access to a server content, said control step being based on a comparison between said current parental control level and the highest parental control level.

If the current parental control level of the player is lower than the highest parental control level, it is concluded that children are probably using the player. In that case it can be decided to block the user access to any server addresses.

5       The invention also relates to an information carrier player comprising processing means for controlling a user access to a server content, said information carrier comprising a parental control access system based on a current parental control level selected from among a set of parental control levels, said information carrier player comprising :

- 10       - association means for associating a list of server addresses with said parental control levels,
- control means for restricting the user access to the list of server addresses associated with said current parental control level.

15       The invention also relates to an information carrier player comprising processing means for controlling a user access to a server content, said information carrier player comprising a parental control access system based on a current parental control level selected from among a set of parental control levels, this information carrier player also comprising control means for blocking the user access to the server content, said control means being intended to perform a comparison between said current parental control level  
20       and the highest parental control level.

Such information carrier players improve the user access control features of existing information carrier players since an access control for general Web browsing is performed. Such an information carrier player may correspond to a DVD player.

25       The invention also relates to a first computer program comprising code instructions for implementing the steps of the first method according to the invention.

30       The invention also relates to a second computer program comprising code instructions for implementing the steps of the second method according to the invention.

Detailed explanations and other aspects of the invention will be given below.

**BRIEF DESCRIPTION OF THE DRAWINGS**

The particular aspects of the invention will now be explained with reference to the embodiments described hereinafter and considered in connection with the accompanying drawings, in which identical parts or sub-steps are designated in the same manner :

5           Fig.1 depicts a first method according to the invention of controlling a user access to a server content,

          Fig.2 depicts a second method according to the invention of controlling a user access to a server content.

**10       DETAILED DESCRIPTION OF THE INVENTION**

          Fig.1 depicts a first method according to the invention of controlling a user access to a server content. This Figure shows an information carrier player 101 communicating via a network 102 with a server 103. For example, it describes a DVD player 101 communicating via the Internet network 102 with a distant Website 103.

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          The player 101 comprises a parental control access step 104 based on the Motion Picture Association of America (MPAA) rating system.

          The following Table 1 reports the different parental control levels (PCL) the player can be set to. The highest PCL = 8 relates to adult contents, while the lowest PCL = 1  
20 relates to kid safe contents.

MPAA Rating	Parental Control Level (PCL)	General Description
NC-17	8	Unrated (most restricted audience)
	7	NC-17 Adult theme or content, not suitable for children under 17
R	6	Restricted (mature audience)
	5	Mature teenage audience
PG-13	4	Parental guidance suggested, unsuitable for children under 13 (teenage audience)
	3	Parental guidance suggested (mature young audience)
PG	2	Most audiences
	1	Suitable for general audiences (general, unrestricted audience)

Table 1 : MPAA Rating

This parental control access step is used for controlling the access to the content of an information carrier 105 (and as a consequence a control access to the specific Websites linked to this DVD). The step 105 is similar to a switch controlled by a control signal derived from a comparison between the parental control level of the disc (designated by DVD\_PCL) and the current parental control level (designated by Current\_PCL\_i) set in the player 101. A user can access the disc content (and also to the specific Websites linked to this DVD) only if Current\_PCL\_i is higher than or equal to DVD\_PCL. The index i corresponds to one of the MPPA rating values as defined in Table 1.

The method according to the invention comprises an association step 106 for associating a list of server addresses with each PCL :

- the list of server addresses List\_8 is associated with PCL having value 8 (designated by PCL\_8),
- the list of server addresses List\_1 is associated with PCL having value 1 (designated by PCL\_1),
- etc ...

Generally speaking, the list of server addresses List<sub>i</sub> is associated with PCL having value i (designated by PCL<sub>i</sub>).

Each list List<sub>i</sub> comprises a set of server addresses set by the people having the right to set the parameters of the player 101. For example, such a setting may be done by entering a PIN code and/or a password. The lists of servers may be defined manually via the user interface 108 (for example from a keyboard), or loaded from an external specific database 107 located in a Website or stored in an information carrier read by the player 101.

The list List<sub>i</sub> of server addresses associated with the current parental control level Current\_PCL<sub>i</sub> advantageously includes the lists of server addresses associated with the parental control levels of lower level.

Server addresses correspond for example to Website addresses or to FTP addresses.

The method according to the invention also comprises a control step 109 for restricting the user access to the list of server addresses List<sub>i</sub> associated with said current parental control level Current\_PCL<sub>i</sub>. This control step 109 is similar to a selector which connects the player 101 and the network 102 only for server addresses of the list which is associated with the parental control level PCL<sub>i</sub> having the same rating i as the current parental control level Current\_PCL<sub>i</sub>.

The method according to the invention may also comprise a first control sub-step 110 for deactivating said control step. This sub-step 110 is similar to a selector controlled by a first control signal 111 generated by the user interface 108. For example, this control signal 111 is generated by the user in charge of setting the parameters of the player 101. This selector is either connected to the control step 109 for receiving the server addresses stored in the list List<sub>i</sub>, or connected to the user interface 108. In this latter case, the user can access any server address he wants, for example by typing the server address via a keyboard.

The method according to the invention may also comprise a second control sub-step 112 for forbidding the user access to any server address. This sub-step 112 is similar to a switch controlled by a second control signal 113 generated by the user interface 108. For example, this control signal 113 is generated by the user in charge of setting the parameters of the player 101. When closed, this switch allows to apply the control access performed by

step 109 to Web browsing, whereas the access to Websites becomes impossible when this switch is opened.

5 The player 101 is associated with a display 114 in charge of displaying the content of the accessed server, but also the content of the DVD disc 105 and the data of a specific server linked to this disc.

Fig.2 depicts a second method according to the invention of controlling a user access to a server content.

10 This method comprises a control step 201 for blocking the user access to a server content. This control step 201 is similar to a switch controlled by a control signal 202 generated by a comparison step 203. The comparison step 203 performs a comparison between the current parental control level  $\text{Current\_PCL\_i}$  and the highest parental control level  $\text{PCL\_8}$ .

15 If  $\text{Current\_PCL\_i} < \text{PCL\_8}$ , it may be assumed that the player 101 is intended to be accessed by young people. In that case, the comparison step 203 generates a control signal 202 having a first state which opens the switch 201. As a consequence, the user cannot access any server addresses.

20 If  $\text{Current\_PCL\_i} = \text{PCL\_8}$ , it may be assumed that the player 101 is intended to be accessed only by adults. In that case, the comparison step 203 generates a control signal 202 having a second state which closes the switch 201. The user can thus access any server addresses, for example by entering the server addresses from the user interface 108.

25 The methods of controlling according to the invention may be implemented in an information carrier player, such as a DVD player, or in any portable apparatus comprising a DVD player (PDA, mobile phone ...).

30 Such methods may be implemented by means of hardware elements (such as wired electronic circuits, memories, signal processors ...), or alternatively by means of software elements such as computer programs comprising code instructions stored in a memory device, said code instructions being executed by a signal processor.

The words "comprise", "comprises" and "comprising" do not exclude the presence of elements other than those listed in the claims.